

Appendix A: Flow Meter Installation Site Reports



City of Baltimore - Bureau of Water and Wastewater

Flow Monitoring Services for Sanitary Sewer System

Site Name

HL01

Sewershed

High Level

Project No.

995S

Inspection Date/Time

1/18/06 - 13:15

Inspected By

DER, WK

City MH LD.

S55EE_002MH

Manhole

Depth (ft)

12.41

Pipe

Width (ft)

5

Width (in)

24.00

Height (in)

Site Address:

Biddle at Chase by Baltimore Plant

MH Type:



Brick



Precast

Pipe Type:



Brick



Concrete



Clay



Metal



Other

Pipe Shape:



Circular



Box



Odd

Top View Picture



Area Location Map



Safety Concerns



Gas



Traffic



Access



Other

Meter Location



U/S



D/S

Manhole Coordinates

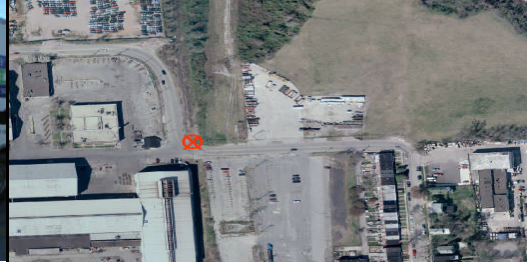
X 1435586.39

Y 596749.89

Area View Picture



Vicinity Map



Tellog Antenna Installation



Asphalt



Soil



Concrete



Traffic



Other

System Characteristics



Residential



Commercial



Industrial

Hydraulic Assessment

Surcharge (ft): 12



Straight



Bend



Drop Inlet



Backwater



Pump Sta.



WWTP



Needs Cleaning

Flow Depth (in): 5

Instant. Vel (fps): 1

Silt Level (in): .5

Signs of I/I: N

HYDRAULIC RATING:



A (good)



B (questionable)



C (poor)

Recommended for Installation



Yes

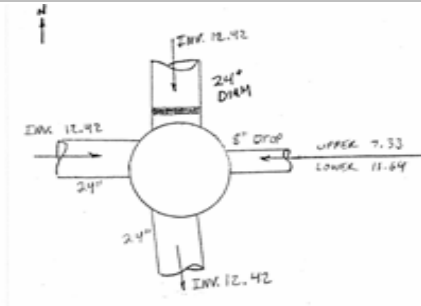


No

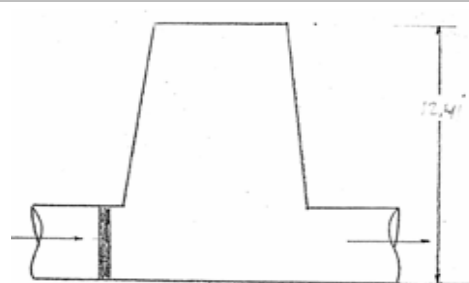
COMMENTS:

Meter Type: ISCO, PV, ULTRA

Installation Plan Sketch



Installation Profile Sketch



Installation Information

Line #	Incoming				Outgoing	OF
	1	2	3	4	1	1
Size (in)	24	24	8		24	
Material	VCP	VCP	VCP		VCP	
Debris (Y/N)	N	Y	N		N	
Shape	Cir	Cir	Cir		Cir	
Flow Depth (in):	3	5	0.5		4	
Instant. Vel. (fps)	3	1	0.2		3	
Invert Elevation (ft)	12.42	12.42	7.33TD		12.42	
			11.64BD			

Comments:

TD: Top Drop BD: Bottom Drop

Installation Photo





City of Baltimore - Bureau of Water and Wastewater
Flow Monitoring Services for Sanitary Sewer System

Site Name

HL02

Sewershed

High Level

Project No.

995S

Inspection Date/Time

1/17/06 - 14:00

Inspected By

DER, MK

City MH LD.

S49EE_007MH

Manhole

Depth (ft)

9.03

Width (ft)

4'00"

Pipe

Width (in)

15.00

Height (in)

Site Address:

#1036 Luzerne at Beryl

MH Type:



Brick



Precast

Pipe Type:



Brick



Concrete



Clay



Metal



Other

Pipe Shape:



Circular



Box

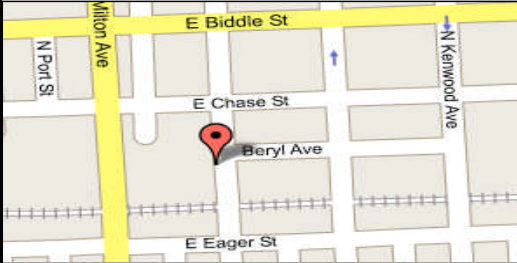


Odd

Top View Picture



Area Location Map



Safety Concerns



Gas



Traffic



Access



Other



None

Meter Location



U/S



D/S

Manhole Coordinates

X 1430875.27

Y 596229.18

Area View Picture



Vicinity Map



Tellog Antenna Installation



Asphalt



Soil



Concrete



Traffic



Other

System Characteristics



Residential



Commercial



Industrial

Hydraulic Assessment

Surcharge (ft): 5



Straight



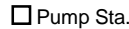
Bend



Drop Inlet



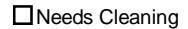
Backwater



Pump Sta.



WWTP



Needs Cleaning

Flow Depth (in):

4

Instant. Vel (fps):

3

Silt Level (in): 0

Signs of I/I: None

HYDRAULIC RATING:



A (good)



B (questionable)



C (poor)

Recommended for
Installation



Yes



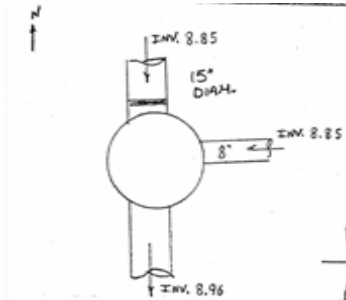
No

COMMENTS:

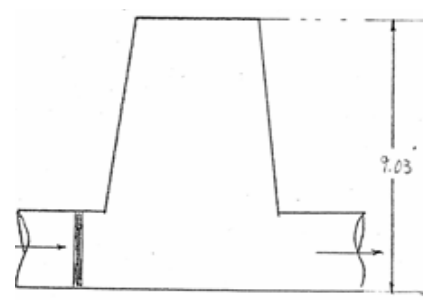
Meter Type:

Isco Ultra PV

Installation Plan Sketch



Installation Profile Sketch



Installation Information

	Incoming				Outgoing	OF
Line #	1	2	3	4	1	1
Size (in)	15	8			15	
Material	VCP	VCP			VCP	
Debris (Y/N)	N	N			N	
Shape	Cir	Cir			Cir	
Flow Depth (in):	4	4			3	
Instant. Vel. (fps)	3	2			3	
Invert Elevation (ft)	8.85	8.85			8.96	

Comments:

Installation Photo





City of Baltimore - Bureau of Water and Wastewater
Flow Monitoring Services for Sanitary Sewer System

Site Name

HL02A

Sewershed

High Level

Project No.

995S

Inspection Date/Time

1/18/06 - 14:40

Inspected By

DER, WK

City MH LD.

S45EE_026MH

Manhole

Depth (ft)

6.52

Width (ft)

4'00"

Pipe

Width (in)

8.00

Height (in)

Site Address:

East Chase at Chester Street

MH Type: ☒ Brick ☐ Precast

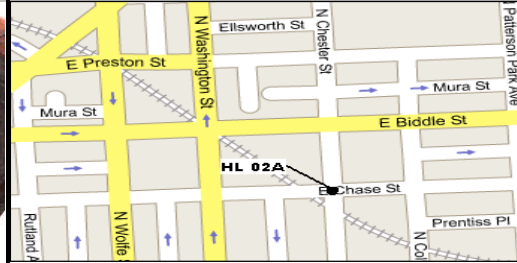
Pipe Type: ☐ Brick ☐ Concrete ☒ Clay ☐ Metal ☐ Other

Pipe Shape: ☒ Circular ☐ Box ☐ Odd

Top View Picture



Area Location Map



Safety Concerns

☐ Gas ☒ Traffic
☐ Access ☐ Other
☐ None

Meter Location

☒ U/S
☐ D/S

Manhole Coordinates

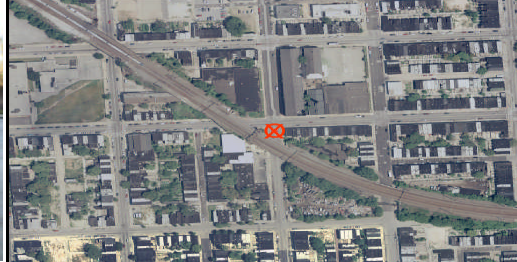
X 1428883.67

Y 596339.15

Area View Picture



Vicinity Map



Tellog Antenna Installation

☒ Asphalt ☐ Soil
☐ Concrete ☐ Traffic
☐ Other

System Characteristics

☒ Residential
☐ Commercial
☐ Industrial

Hydraulic Assessment

Surcharge (ft): 1.5 ☐ Straight ☒ Bend ☐ Drop Inlet ☐ Backwater ☐ Pump Sta. ☐ WWTP ☐ Needs Cleaning

Flow Depth (in): 0.5 Instant. Vel (fps): 0.1 Silt Level (in): 0 Signs of I/I: None

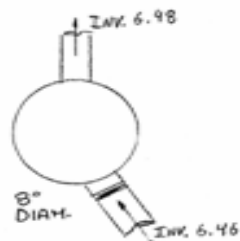
HYDRAULIC RATING: ☐ A (good) ☐ B (questionable) ☒ C (poor)

Recommended for Installation ☒ Yes ☐ No

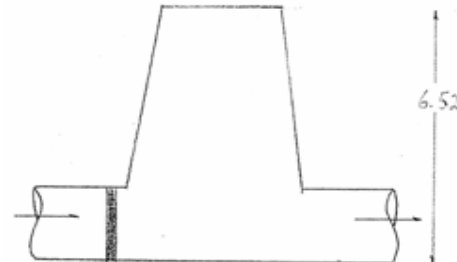
COMMENTS:

Meter Type: Isco Ultra PV

Installation Plan Sketch



Installation Profile Sketch



Installation Information

Line #	Incoming				Outgoing	OF
	1	2	3	4	1	1
Size (in)	8				8	
Material	VCP				VCP	
Debris (Y/N)	N				N	
Shape	Cir				Cir	
Flow Depth (in):	0.5				0.5	
Instant. Vel. (fps)	0.1				0.1	
Invert Elevation (ft)	6.46				6.98	

Comments:

Installation Photo





City of Baltimore - Bureau of Water and Wastewater
Flow Monitoring Services for Sanitary Sewer System

Site Name

HL02B

Sewershed

High Level

Project No.

995S

Inspection Date/Time

1/18/06 - 15:15

Inspected By

DER, WK

City MH ID.

S45EE_035MH

Manhole

Depth (ft)

9.99

Width (ft)

4

Pipe

Width (in)

10.00

Height (in)

Site Address:

#1103 Washington at Chase

MH Type:



Brick



Precast

Pipe Type:



Brick



Concrete



Clay



Metal



Other

Pipe Shape:



Circular

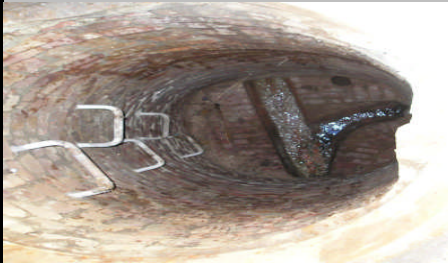


Box

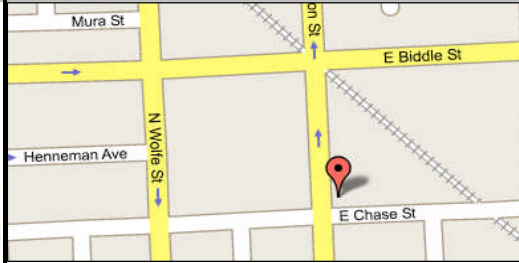


Odd

Top View Picture



Area Location Map



Safety Concerns



Gas



Traffic



Access



Other



None

Meter Location



U/S



D/S

Manhole Coordinates

X 1428396.00

Y 596463.08

Area View Picture



Vicinity Map



Tellog Antenna Installation



Asphalt



Soil



Concrete



Traffic



Other

System Characteristics



Residential



Commercial



Industrial

Hydraulic Assessment

Surcharge (ft): 2



Straight



Bend



Drop Inlet



Backwater



Pump Sta.



WWTP



Needs Cleaning

Flow Depth (in):

1.5

Instant. Vel (fps):

3

Silt Level (in): 0

Signs of I/I: None

HYDRAULIC RATING:



A (good)



B (questionable)



C (poor)

Recommended for Installation



Yes



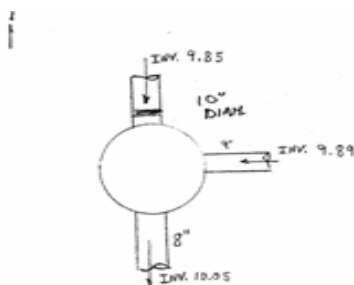
No

COMMENTS:

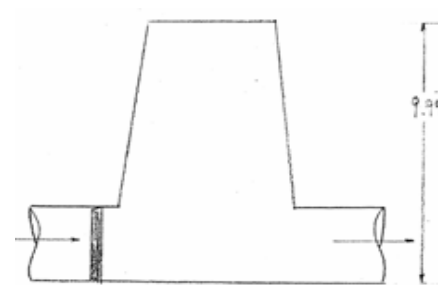
Meter Type:

Isco Ultra PV

Installation Plan Sketch



Installation Profile Sketch



Installation Information

Line #	Incoming				Outgoing	OF
	1	2	3	4	1	1
Size (in)	10	8			8	
Material	VCP	VCP			VCP	
Debris (Y/N)	N	Y			N	
Shape	Cir	Cir			Cir	
Flow Depth (in):	1.5	0.25			2	
Instant. Vel. (fps)	3	0.1			3	
Invert Elevation (ft)	9.85	9.89			10.05	

Comments:

Installation Photo





City of Baltimore - Bureau of Water and Wastewater

Flow Monitoring Services for Sanitary Sewer System

Site Name

HL03

Sewershed

High Level

Project No.

995S

Inspection Date/Time

1/18/06 - 16:00

Inspected By

DER, WK

City MH LD.

S45EE_024MH

Manhole

Depth (ft)

11.26

Pipe

Width (ft)

4'00"

Width (in)

24.00

Height (in)

Site Address:

E. Chase at N. Wolfe

MH Type:



Brick



Precast

Pipe Type:



Brick



Concrete



Clay



Metal



Other

Pipe Shape:



Circular



Box

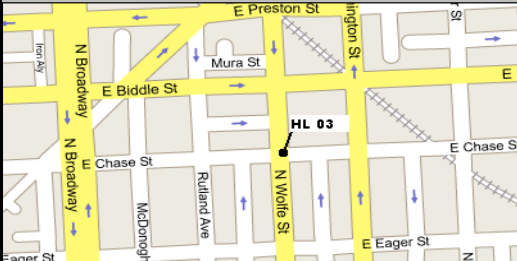


Odd

Top View Picture



Area Location Map



Safety Concerns



Gas



Traffic



Access



Other



None

Meter Location



U/S



D/S

Manhole Coordinates

X 1428030.45

Y 596349.15

Area View Picture



Vicinity Map



Tellog Antenna Installation



Asphalt



Soil



Concrete



Traffic



Other

System Characteristics



Residential



Commercial



Industrial

Hydraulic Assessment

Surcharge (ft): 10



Straight



Bend



Drop Inlet



Backwater



Pump Sta.



WWTP



Needs Cleaning

Flow Depth (in):

6

Instant. Vel (fps):

2.5

Silt Level (in): 0

Signs of I/I:

Manhole Leaking

HYDRAULIC RATING:



A (good)



B (questionable)



C (poor)

Recommended for Installation



Yes



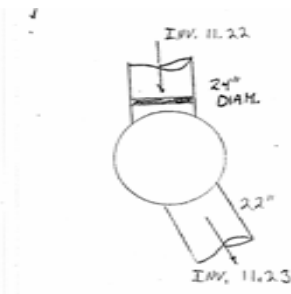
No

COMMENTS:

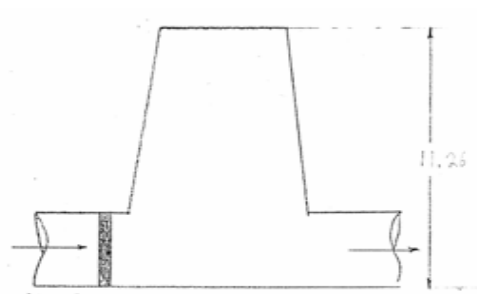
Meter Type:

Isco Ultra PV

Installation Plan Sketch



Installation Profile Sketch



Installation Information

	Incoming				Outgoing	OF
Line #	1	2	3	4	1	1
Size (in)	24				22	
Material	VCP				VCP	
Debris (Y/N)	N				N	
Shape	Cir				Cir	
Flow Depth (in):	6				6	
Instant. Vel. (fps)	2.5				2.5	
Invert Elevation (ft)	11.22				11.23	

Comments:

Installation Photo





City of Baltimore - Bureau of Water and Wastewater
Flow Monitoring Services for Sanitary Sewer System

Site Name

HL04

Sewershed

High Level

Project No.

995S

Inspection Date/Time

1/18/06 - 16:30

Inspected By

DER, WK

City MH LD.

S45II_029MH

Site Address:

#1925 Federal at N. Chapel

Depth (ft)

11.73

Manhole

Width (ft)

4

Pipe

Width (in)

22.00

Height (in)

MH Type:



Brick



Precast

Pipe Type:



Brick



Concrete



Clay



Metal



Other

Pipe Shape:



Circular



Box

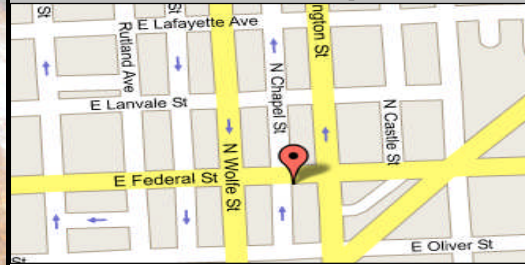


Odd

Top View Picture



Area Location Map



Safety Concerns



Gas



Traffic



Access



Other



None

Meter Location



U/S



D/S

Manhole Coordinates

X 1428178.24

Y 598292.53

Area View Picture



Vicinity Map



Tellog Antenna Installation



Asphalt



Soil



Concrete



Traffic



Other

System Characteristics



Residential



Commercial



Industrial

Hydraulic Assessment

Surcharge (ft): 2



Straight



Bend



Drop Inlet



Backwater



Pump Sta.



WWTP



Needs Cleaning

Flow Depth (in):

4

Instant. Vel (fps):

3

Silt Level (in): 0

Signs of I/I: Leaks by outgoing pipe

HYDRAULIC RATING:



A (good)



B (questionable)



C (poor)

Recommended for Installation



Yes



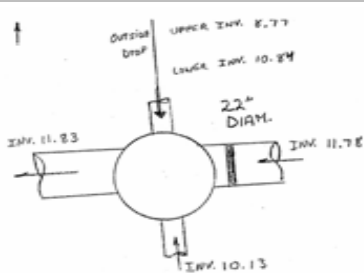
No

COMMENTS:

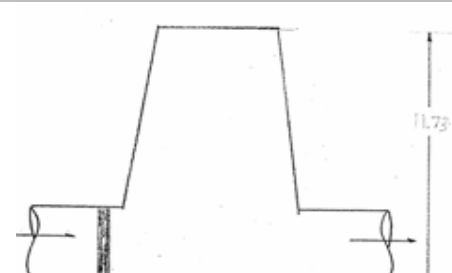
Meter Type:

Isco Ultra PV

Installation Plan Sketch



Installation Profile Sketch



Installation Information

Line #	Incoming				Outgoing	OF
	1	2	3	4	1	1
Size (in)	8	22	8		22	
Material	VCP	VCP	VCP		VCP	
Debris (Y/N)	N	N	N		N	
Shape	Cir	Cir	Cir		Cir	
Flow Depth (in):	0.5	4	0.5		4	
Instant. Vel. (fps)	0.5	3	0.5		3	
Invert Elevation (ft)	10.13	11.78	8.77TD		11.83	

Comments:

Pipe 3 Drop Connection

TD: Top Drop BD: Bottom Drop

Installation Photo





City of Baltimore - Bureau of Water and Wastewater

Flow Monitoring Services for Sanitary Sewer System

Site Name

HL05

Sewershed

High Level

Project No.

995S

Inspection Date/Time

1/19/06 - 07:45

Inspected By

DER, WK

City MH LD.

S45MM_036MH

Site Address:

N. Duncan at N. 20th Street Alley

Site address is E. 20th Street Alley.

Depth (ft)

8.31

Width (ft)

4'00"

Width (in)

15.00

Height (in)

MH Type: ☒ Brick ☐ Precast

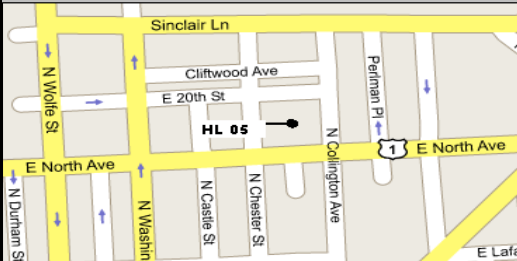
Pipe Type: ☐ Brick ☐ Concrete ☒ Clay ☐ Metal ☐ Other

Pipe Shape: ☒ Circular ☐ Box ☐ Odd

Top View Picture



Area Location Map



Safety Concerns

☐ Gas ☐ Traffic
☐ Access ☒ Other
☐ None

Meter Location

☒ U/S
☐ D/S

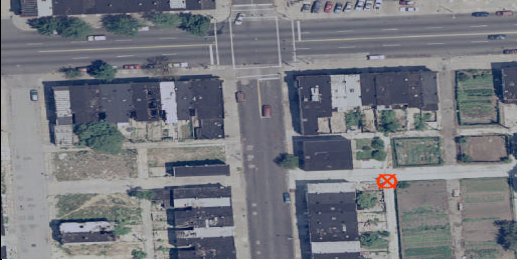
Manhole Coordinates

X 1428870.16
Y 599761.92

Area View Picture



Vicinity Map



Teloge Antenna Installation

☐ Asphalt ☐ Soil
☒ Concrete ☐ Traffic
☐ Other

System Characteristics

☒ Residential
☐ Commercial
☐ Industrial

Hydraulic Assessment

Surcharge (ft): 3 ☐ Straight ☒ Bend ☐ Drop Inlet ☐ Backwater ☐ Pump Sta. ☐ WWTP ☐ Needs Cleaning

Flow Depth (in): 3 Instant. Vel (fps): 3 Silt Level (in): 0 Signs of I/I: None

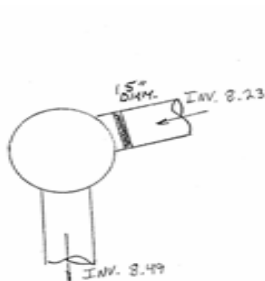
HYDRAULIC RATING: ☒ A (good) ☐ B (questionable) ☐ C (poor)

Recommended for Installation ☒ Yes ☐ No

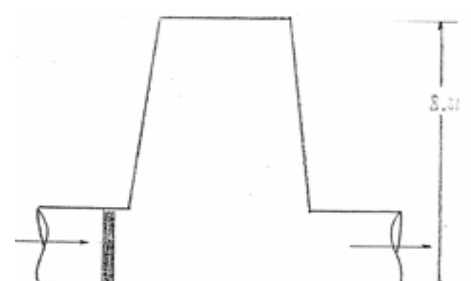
COMMENTS:

Meter Type: ISCO, PV, ULTRA

Installation Plan Sketch



Installation Profile Sketch



Installation Information

Line #	Incoming				Outgoing	OF
	1	2	3	4	1	1
Size (in)	15				15	
Material	VCP				VCP	
Debris (Y/N)	N				N	
Shape	Cir				Cir	
Flow Depth (in):	3				3	
Instant. Vel. (fps)	3				3	
Invert Elevation (ft)	8.23				8.49	

Comments:

Installation Photo



PART A - SITE INVESTIGATION


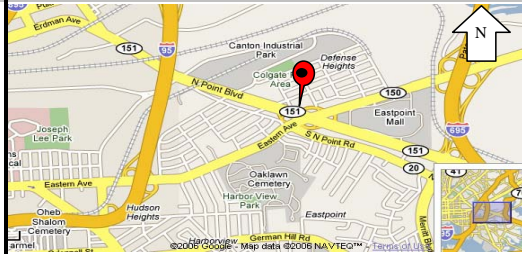
PART A - SITE INVESTIGATION

PART B - SITE INSTALLATION

PART B - SITE INSTALLATION

Sewershed HERRING RUN	Project No. 995R	Inspection Date/Time 1/12/06 12:15	City MH I.D. S71A_005MH	
		Inspected By JM/VL	Manhole Depth (ft) 12.90	Pipe Width (ft) 8.00
Site Address: 6800 Lombard Street			Width (in) 37.00	Height (in) 35.75

MH Type: ☒ Brick ☐ Pre-cast Pipe Type: ☐ Brick ☐ Concrete ☐ Clay ☒ Other Pipe Shape: ☒ Circular ☐ Box ☐ Odd

Top View Picture 	Area Location Map 	Safety Concerns <input checked="" type="checkbox"/> Gas <input type="checkbox"/> Traffic <input type="checkbox"/> Access <input type="checkbox"/> Other low oxygen
		Meter Location <input checked="" type="radio"/> U/S <input type="radio"/> D/S 5 ft
		Manhole Coordinates 594,172.32 N 1,445,476.35 W

Area View Picture 	Vicinity Map 	Telog Antenna Installation <input checked="" type="checkbox"/> Asphalt <input type="checkbox"/> Soil <input type="checkbox"/> Concrete <input type="checkbox"/> Traffic Signal Strength 100%
		Telog Phone # (410) 960-9237
		System Characteristics <input type="checkbox"/> Residential <input checked="" type="checkbox"/> Commercial <input type="checkbox"/> Industrial

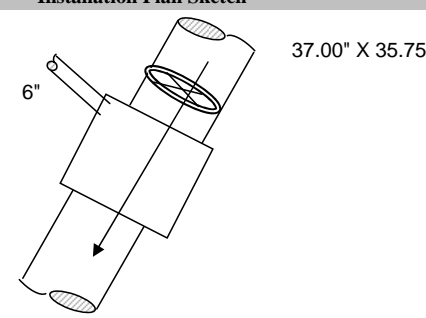
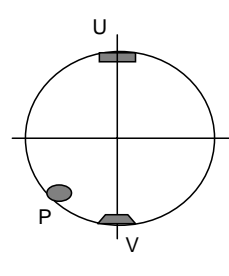
Hydraulic Assessment

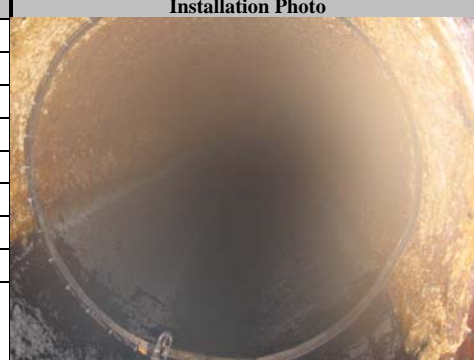
Surcharge (ft): **0.00** ☒ Straight ☐ Bend ☐ Drop Inlet ☒ Backwater ☒ Pump Sta. ☐ WWTP ☐ Needs Cleaning

Flow Depth (in): **1.00** Instant Vel (fps): **N/A** Silt Level (in): **0.00** Signs of I/I: **NO**

HYDRAULIC RATING: ☒ A (good) ☐ B (questionable) ☐ C (poor) Recommended for Installation ☒ Yes ☐ No

Meter Type: **ADS-FlowShark**

Installation Plan Sketch 	Installation Profile Sketch 
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Installation Information						Installation Photo	
	Incoming				Outgoing	OF	
Line #	1	2	3	4	1	1	
Size (in)	6.00	m			36.00		
Material	VCP	e			CI		
Debris (Y/N)	Y	t			N		
Shape	Cir.	e			Cir.		
Flow Depth (in):	0.00	r			1.00		
Instant. Vel. (fps)	0.00				N/A		
Comments: Steep grade in manhole, 4' drop in bench. Low oxygen, 5-7 ppm of H2S.							

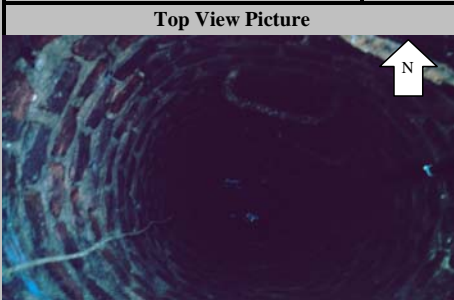


City of Baltimore - Bureau of Water and Wastewater
Flow Monitoring Services for Sanitary Sewer System

Site Name
OUT01

Sewershed	Project No.	Inspection Date/Time	City MH I.D.			
<i>OutFall</i>	<i>995R</i>	<i>2/16/2007 8:00</i>	<i>S69C_002MH</i>			
		Inspected By	Manhole	Pipe		
		<i>LT / JGM</i>	Depth (ft)	Width (ft)	Width (in)	Height (in)

Site Address:	<i>111 Kane St.</i>		<i>22.5</i>	<i>4</i>	<i>17.75</i>	<i>18.12</i>
MH Type: <input checked="" type="radio"/> Brick <input type="radio"/> Pre-cast	Pipe Type: <input type="radio"/> Brick <input type="radio"/> Concrete <input checked="" type="radio"/> Clay <input type="radio"/> Other		Pipe Shape: <input checked="" type="radio"/> Circular <input type="radio"/> Box <input type="radio"/> Odd			

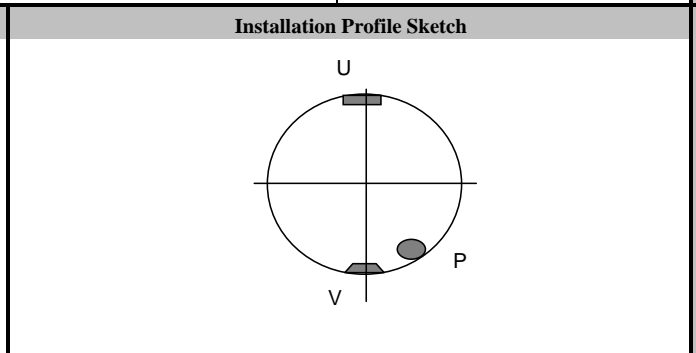
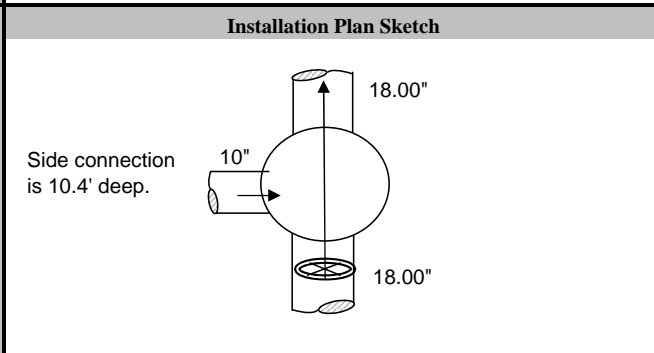


Safety Concerns	
<input type="checkbox"/> Gas	<input type="checkbox"/> Traffic
<input checked="" type="checkbox"/> Access	<input checked="" type="checkbox"/> Other
Train Crossing	
Meter Location	
<input checked="" type="radio"/> U/S	<i>1</i> ft
<input type="radio"/> D/S	
Manhole Coordinates	
<i>592,626.73 N</i>	
<i>1,444,426.40 W</i>	
Telog Antenna Installation	
<input type="checkbox"/> Asphalt	<input checked="" type="checkbox"/> Soil
<input type="checkbox"/> Concrete	<input checked="" type="checkbox"/> Traffic
Signal Strength <i>100%</i>	
Telog Phone #	
<i>(410) 207-8195</i>	
System Characteristics	
<input checked="" type="checkbox"/> Residential	
<input checked="" type="checkbox"/> Commercial	
<input type="checkbox"/> Industrial	



Hydraulic Assessment	
Surcharge (ft): <i>12</i>	<input checked="" type="checkbox"/> Straight <input type="checkbox"/> Bend <input type="checkbox"/> Drop Inlet <input type="checkbox"/> Backwater <input type="checkbox"/> Pump Sta. <input type="checkbox"/> WWTP <input type="checkbox"/> Needs Cleaning
Flow Depth (in): <i>2.25</i>	Instant Vel (fps): <i>5.47</i> Silt Level (in): <i>0</i> Signs of I/I: <i>No</i>

HYDRAULIC RATING: <input checked="" type="radio"/> A (good) <input type="radio"/> B (questionable) <input type="radio"/> C (poor)	Recommended for Installation <input checked="" type="radio"/> Yes <input type="radio"/> No
---	--



Installation Information						
	Incoming				Outgoing	OF
Line #	1	2	3	4	1	1
Size (in)	<i>M</i>	<i>10</i>			<i>18</i>	
Material	<i>E</i>	<i>VCP</i>			<i>VCP</i>	
Debris (Y/N)	<i>T</i>	<i>No</i>			<i>No</i>	
Shape	<i>E</i>	<i>RND</i>			<i>RND</i>	
Flow Depth (in):	<i>R</i>	<i>2</i>			<i>4</i>	
Instant. Vel. (fps)		<i>1.5</i>			<i>5.35</i>	

Comments: *Back Up possible. Connection at OutFall Sewer 1000 L.F. downstream. Site is located behind City of Baltimore Solid Waste Station. Will need assistance from City to gain access (locked gates).*



PART A - SITE INVESTIGATION

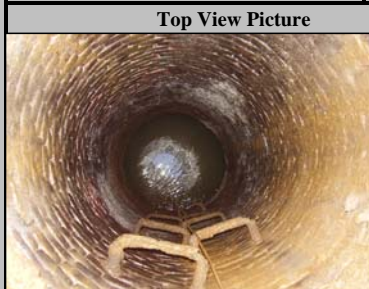
PART B - SITE INSTALLATION

PART A - SITE INVESTIGATION

PART B - SITE INSTALLATION

Sewershed OUTFALL	Project No. 995R	Inspection Date/Time 1/12/06 10:00	City MH I.D. S65A_005MH			
		Inspected By JM/VL	Manhole		Pipe	
		Depth (ft) 23.00	Width (ft) 3.75	Width (in) 147.00	Height (in) 132.00	

Site Address: Lombard St. near Kane intersection	MH Type: <input checked="" type="radio"/> Brick <input type="radio"/> Pre-cast	Pipe Type: <input type="radio"/> Brick <input checked="" type="radio"/> Concrete <input type="radio"/> Clay <input type="radio"/> Other	Pipe Shape: <input type="radio"/> Circular <input type="radio"/> Box <input checked="" type="radio"/> Odd
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Safety Concerns

<input checked="" type="checkbox"/> Gas	<input type="checkbox"/> Traffic
<input type="checkbox"/> Access	<input type="checkbox"/> Other

Meter Location

☒ U/S ☐ D/S **2.00** ft

Manhole Coordinates

593,681.78 N
1,441,505.07 W



Tellog Antenna Installation

<input checked="" type="checkbox"/> Asphalt	<input type="checkbox"/> Soil
<input type="checkbox"/> Concrete	<input checked="" type="checkbox"/> Traffic

Signal Strength **100%**

Tellog Phone #
(410) 371-3641

System Characteristics

<input checked="" type="checkbox"/> Residential
<input checked="" type="checkbox"/> Commercial
<input checked="" type="checkbox"/> Industrial

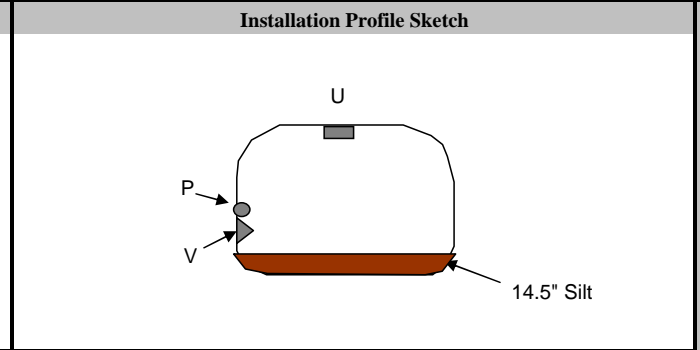
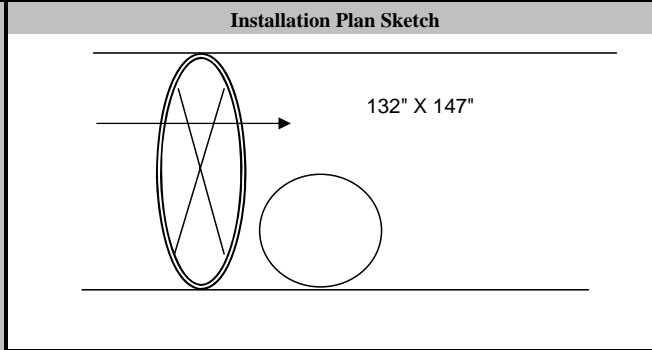
Hydraulic Assessment

Surcharge (ft): **4.00** ☒ Straight ☐ Bend ☐ Drop Inlet ☐ Backwater ☒ Pump Sta. ☐ WWTP ☐ Needs Cleaning

Flow Depth (in): **92.00** Instant Vel (fps): **1.58** Silt Level (in): **14.50** Signs of I/I: **NO**

HYDRAULIC RATING:	<input checked="" type="radio"/> A (good) <input type="radio"/> B (questionable) <input type="radio"/> C (poor)	Recommended for Installation	<input checked="" type="radio"/> Yes <input type="radio"/> No
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Meter Type: ADS-FlowShark





Installation Information						
	Incoming				Outgoing	OF
Line #	1	2	3	4	1	1
Size (in)	<i>m</i>				147\" X 132\"	
Material	<i>e</i>				RCP	
Debris (Y/N)	<i>t</i>				Y	
Shape	<i>e</i>				Cir.	
Flow Depth (in):	<i>r</i>				90.00	
Instant. Vel. (fps)					1.58	

Comments:



Sewershed OUTFALL	Project No. 995R	Inspection Date/Time 1/10/06 16:45	City MH I.D. S55AA_009MH			
		Inspected By DJ/JM	Manhole		Pipe	
		Depth (ft) 15.52	Width (ft) 2.00	Width (in) 147.00	Height (in) 132.00	
Site Address: 3901 Monument						

MH Type: ☒ Brick ☐ Pre-cast Pipe Type: ☐ Brick ☒ Concrete ☐ Clay ☐ Other Pipe Shape: ☐ Circular ☐ Box ☒ Odd

Top View Picture 	Area Location Map 	Safety Concerns <input checked="" type="checkbox"/> Gas <input checked="" type="checkbox"/> Traffic <input type="checkbox"/> Access <input type="checkbox"/> Other
		Meter Location <input checked="" type="radio"/> U/S <input type="radio"/> D/S 2 ft
		Manhole Coordinates 594,961.76 N 1,435,389.56 W

Area View Picture 	Vicinity Map 	Telog Antenna Installation <input checked="" type="checkbox"/> Asphalt <input type="checkbox"/> Soil <input type="checkbox"/> Concrete <input checked="" type="checkbox"/> Traffic Signal Strength 100%
		Telog Phone # (410) 916-9384
		System Characteristics <input checked="" type="checkbox"/> Residential <input checked="" type="checkbox"/> Commercial <input checked="" type="checkbox"/> Industrial

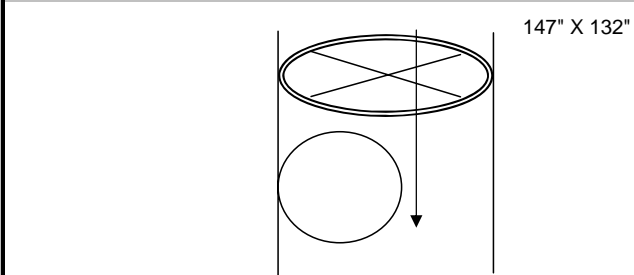
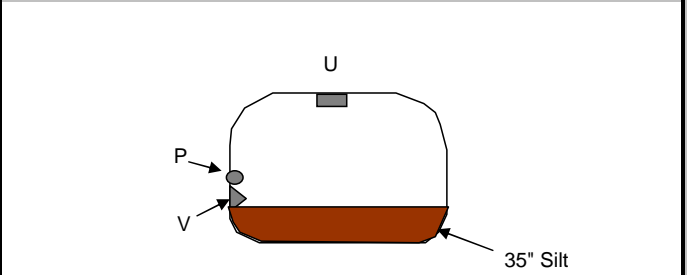
Hydraulic Assessment


Surcharge (ft): **0.00** ☒ Straight ☐ Bend ☐ Drop Inlet ☐ Backwater ☐ Pump Sta. ☐ WWTP ☐ Needs Cleaning

Flow Depth (in): **87.00** Instant Vel (fps): **1.87** Silt Level (in): **35.00** Signs of I/I: **NO**

HYDRAULIC RATING: ☐ A (good) ☒ B (questionable) ☐ C (poor) **Recommended for Installation** ☒ Yes ☐ No

Meter Type: ADS-FlowShark

Installation Plan Sketch 	Installation Profile Sketch 
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Installation Information						Installation Photo	
	Incoming				Outgoing	OF	
Line #	1	2	3	4	1	1	
Size (in)	m				147 X 132		
Material	e				RCP		
Debris (Y/N)	t				55.00		
Shape	e				Cir.		
Flow Depth (in):	r				87.00		
Instant. Vel. (fps)					1.87		

Comments: **Large pipe with a lot of silt and flow. Air blower needed for access.**



City of Baltimore - Bureau of Water and Wastewater

Flow Monitoring Services for Sanitary Sewer System

Site Name

OUT04A

Sewershed

Outfall

Project No.

995S

Inspection Date/Time

4/29/2006 - 1000

Inspected By

Jason Cooper

City MH I.D.

S45EE_016MH

Manhole

Depth (ft)

23.83

Width (ft)

4'00"

Pipe

Width (in)

120.00

Height (in)

Site Address:

Washington Ave. @ Chase St.

MH Type: ☒ Brick ☐ Precast

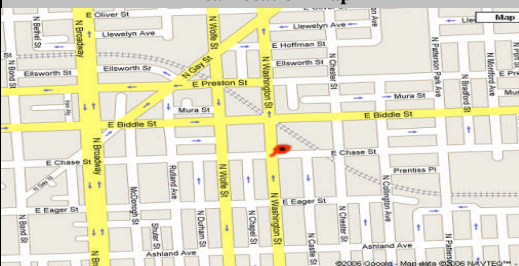
Pipe Type: ☒ Brick ☒ Concrete ☐ Clay ☐ Metal ☐ Other

Pipe Shape: ☐ Circular ☐ Box ☒ Odd

Top View Picture



Area Location Map



Safety Concerns

- ☐ Gas ☒ Traffic
☐ Access ☐ Other
☐ None

Meter Location

- ☒ U/S
☐ D/S

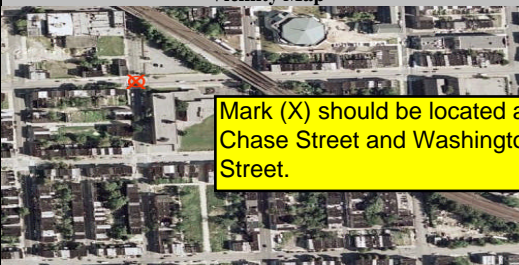
Manhole Coordinates

X 1428397.75
Y 596356.01

Area View Picture



Vicinity Map



Mark (X) should be located at Chase Street and Washington Street.

Tellog Antenna Installation

- ☒ Asphalt ☐ Soil
☐ Concrete ☐ Traffic
☐ Other

System Characteristics

- ☒ Residential
☐ Commercial
☐ Industrial

Hydraulic Assessment

Surcharge (ft): ☒ Straight ☐ Bend ☐ Drop Inlet ☐ Backwater ☐ Pump Sta. ☐ WWTP ☐ Needs Cleaning

Flow Depth (in): 76

Instant. Vel (fps): 2.45

Silt Level (in): 27

Signs of I/I: N

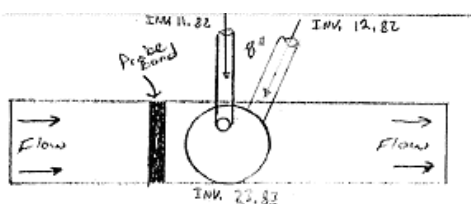
HYDRAULIC RATING: ☒ A (good) ☐ B (questionable) ☐ C (poor)

Recommended for Installation ☒ Yes ☐ No

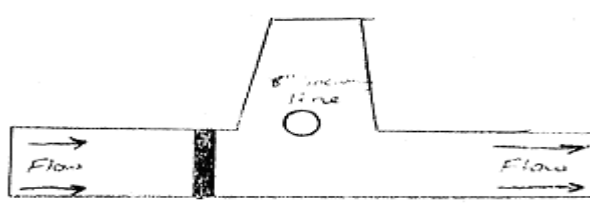
COMMENTS:

Meter Type: Isco Ultra PV

Installation Plan Sketch



Installation Profile Sketch



Installation Information

	Incoming				Outgoing	OF
Line #	1	2	3	4	1	1
Size (in)	120	8	8		120	
Material	RCP	VCP	VCP		RCP	
Debris (Y/N)	Y	N	N		Y	
Shape	-	Cir	Cir		-	
Flow Depth (in):	76	-	-		76	
Instant. Vel. (fps)	2.45	-	-		2.45	
Invert Elevation (ft)	23.83	11.82	12.82		23.83	

Comments: Inverts are the same on both ends of manhole

Installation Photo



PART A - SITE INVESTIGATION

PART A - SITE INVESTIGATION

PART B - SITE INSTALLATION

PART B - SITE INSTALLATION

		City of Baltimore - Bureau of Water and Wastewater Flow Monitoring Services for Sanitary Sewer System				Site Name OUT04	
		Sewershed Outfall		Project No. 995S		Inspection Date/Time 1/19/06 - 12:05 Inspected By GW, MK	
Site Address: Ashland Ave at Bradford Street				Depth (ft) 37.53	Width (ft) 4	Width (in) 127.00	Height (in)
MH Type: <input checked="" type="checkbox"/> Brick <input type="checkbox"/> Precast		Pipe Type: <input checked="" type="checkbox"/> Brick <input checked="" type="checkbox"/> Concrete <input type="checkbox"/> Clay <input type="checkbox"/> Metal <input type="checkbox"/> Other				Pipe Shape: <input checked="" type="checkbox"/> Circular <input type="checkbox"/> Box <input type="checkbox"/> Odd	
Top View Picture 		Area Location Map 				Safety Concerns <input type="checkbox"/> Gas <input type="checkbox"/> Traffic <input type="checkbox"/> Access <input type="checkbox"/> Other <input checked="" type="checkbox"/> None	
						Meter Location <input checked="" type="checkbox"/> U/S <input type="checkbox"/> D/S	
						Manhole Coordinates X 1429904.67 Y 595432.69	
						Telog Antenna Installation <input checked="" type="checkbox"/> Asphalt <input type="checkbox"/> Soil <input type="checkbox"/> Concrete <input type="checkbox"/> Traffic <input type="checkbox"/> Other	
Area View Picture 		Vicinity Map 				System Characteristics <input checked="" type="checkbox"/> Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Industrial	
Hydraulic Assessment							
Surcharge (ft): 15 <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Bend <input type="checkbox"/> Drop Inlet <input type="checkbox"/> Backwater <input type="checkbox"/> Pump Sta. <input type="checkbox"/> WWTP <input type="checkbox"/> Needs Cleaning Flow Depth (in): - Instant. Vel (fps): 2 Silt Level (in): 39 Signs of I/I: None							
HYDRAULIC RATING: <input checked="" type="checkbox"/> A (good) <input type="checkbox"/> B (questionable) <input type="checkbox"/> C (poor)						Recommended for Installation <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
COMMENTS:						Meter Type: Isco 50' Ultra PV	
Installation Plan Sketch 				Installation Profile Sketch 			
Installation Information						Installation Photo	
Line #	1	2	3	4	1	1	
Size (in)	8"	127			127		
Material	Brk/Conc	Brk/Conc			Brk/Conc		
Debris (Y/N)	N	Y			Y		
Shape	Cir	Cir			Cir		
Flow Depth (in):	-	-			-		
Instant. Vel. (fps)	-	2			2		
Invert Elevation (ft)	11.95	37.53			37.53		
Comments: Pipe Invert 2 and Outgoing same at both ends of the manhole							



		City of Baltimore - Bureau of Water and Wastewater Flow Monitoring Services for Sanitary Sewer System				Site Name OUT05		
		Sewershed Outfall		Project No. 995S		Inspection Date/Time 1/19/06 - 8:00 Inspected By GW, MK		City MH I.D. S45CC_030MH
Site Address: E. Eager Street at N. Wolfe Street				Depth (ft) 8.3	Width (ft) 4'00"	Width (in) 15.00	Height (in)	
MH Type: <input checked="" type="checkbox"/> Brick <input type="checkbox"/> Precast		Pipe Type: <input type="checkbox"/> Brick <input type="checkbox"/> Concrete <input checked="" type="checkbox"/> Clay <input type="checkbox"/> Metal <input type="checkbox"/> Other		Pipe Shape: <input checked="" type="checkbox"/> Circular <input type="checkbox"/> Box <input type="checkbox"/> Odd				
Top View Picture 		Area Location Map 		Safety Concerns <input type="checkbox"/> Gas <input checked="" type="checkbox"/> Traffic <input type="checkbox"/> Access <input type="checkbox"/> Other <input type="checkbox"/> None				
				Meter Location <input checked="" type="checkbox"/> U/S <input type="checkbox"/> D/S				
				Manhole Coordinates X 1428022.60 Y 595821.49				
				Telog Antenna Installation <input checked="" type="checkbox"/> Asphalt <input type="checkbox"/> Soil <input type="checkbox"/> Concrete <input type="checkbox"/> Traffic <input type="checkbox"/> Other				
Area View Picture 		Vicinity Map 		System Characteristics <input checked="" type="checkbox"/> Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Industrial				
Hydraulic Assessment								
Surcharge (ft): 8.3 <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Bend <input type="checkbox"/> Drop Inlet <input type="checkbox"/> Backwater <input type="checkbox"/> Pump Sta. <input type="checkbox"/> WWTP <input type="checkbox"/> Needs Cleaning Flow Depth (in): 9 Instant. Vel (fps): 0.4 Silt Level (in): 4 Signs of I/I: None								
HYDRAULIC RATING: <input type="checkbox"/> A (good) <input checked="" type="checkbox"/> B (questionable) <input type="checkbox"/> C (poor)						Recommended for Installation <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
COMMENTS:						Meter Type: Isco Ultra PV		
Installation Plan Sketch 				Installation Profile Sketch 				
Installation Information						Installation Photo 		
	Incoming				Outgoing			OF
Line #	1	2	3	4	1			1
Size (in)	15	8			15			
Material	VCP	VCP			VCP			
Debris (Y/N)	Y	Y			Y			
Shape	Cir	Cir			Cir			
Flow Depth (in):	9	4.25			7			
Instant. Vel. (fps)	0.4	0.2			1.5			
Invert Elevation (ft)	8.28	7.94			8.31			
Comments: Surcharge marks to cover. Line plays the waiting game to enter interceptor at Durham. Marginal site.								

		City of Baltimore - Bureau of Water and Wastewater Flow Monitoring Services for Sanitary Sewer System				Site Name OUT06A			
		Sewershed Outfall		Project No. 995S		Inspection Date/Time 1/19/06 - 11:30		City MH I.D. S43C__022MH	
Site Address: Bond Street at Mullikin Court		MH Type: <input type="checkbox"/> Brick <input checked="" type="checkbox"/> Precast		Pipe Type: <input checked="" type="checkbox"/> Brick <input checked="" type="checkbox"/> Concrete <input type="checkbox"/> Clay <input type="checkbox"/> Metal <input type="checkbox"/> Other		Inspected By GW, MK		Manhole Depth (ft) Width (ft) Width (in) Height (in)	
						14.44 3 99.00			
Top View Picture 		Area Location Map 				Safety Concerns <input type="checkbox"/> Gas <input type="checkbox"/> Traffic <input type="checkbox"/> Access <input type="checkbox"/> Other <input checked="" type="checkbox"/> None			
						Meter Location <input checked="" type="checkbox"/> U/S <input type="checkbox"/> D/S			
						Manhole Coordinates X 1426680.61 Y 593023.89			
						Telog Antenna Installation <input checked="" type="checkbox"/> Asphalt <input type="checkbox"/> Soil <input type="checkbox"/> Concrete <input type="checkbox"/> Traffic <input type="checkbox"/> Other			
Area View Picture 		Vicinity Map 				System Characteristics <input checked="" type="checkbox"/> Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Industrial			
						Hydraulic Assessment Surcharge (ft): 10 <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Bend <input type="checkbox"/> Drop Inlet <input type="checkbox"/> Backwater <input type="checkbox"/> Pump Sta. <input type="checkbox"/> WWTP <input type="checkbox"/> Needs Cleaning Flow Depth (in): 63 Instant. Vel (fps): 1.5 Silt Level (in): 20 Signs of I/I: None			
						HYDRAULIC RATING: <input checked="" type="checkbox"/> A (good) <input type="checkbox"/> B (questionable) <input type="checkbox"/> C (poor)			
						Recommended for Installation <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
COMMENTS: MH Type is Poured in Place		Meter Type: Isco Ultra PV							
Installation Plan Sketch 		Installation Profile Sketch 							
Installation Information						Installation Photo 			
Line #	1	2	3	4	1			1	
Size (in)	99				99				
Material	Brk/Conc				Brk/Conc				
Debris (Y/N)	Y				Y				
Shape	Cir				Cir				
Flow Depth (in):	63				63				
Instant. Vel. (fps)	14.4				14.48				
Comments: At 15' downstream ceiling becomes flat size reduced chamber between pipes 8' long									

Sewershed	Project No.	Inspection Date/Time	City MH I.D.			
OUTFALL	995R	1/5/06 13:55	S45CC_007MH			
		Inspected By	Manhole		Pipe	
		JM/DJ	Depth (ft)	Width (ft)	Width (in)	Height (in)

Site Address:	951 Durham	13.95	4.00	99.00	99.00
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MH Type: <input checked="" type="radio"/> Brick <input type="radio"/> Pre-cast	Pipe Type: <input type="radio"/> Brick <input checked="" type="radio"/> Concrete <input type="radio"/> Clay <input type="radio"/> Other	Pipe Shape: <input checked="" type="radio"/> Circular <input type="radio"/> Box <input type="radio"/> Odd
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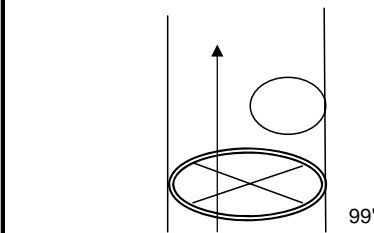
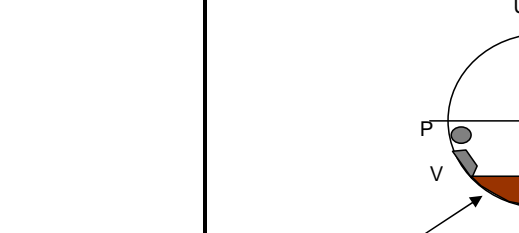
Top View Picture	Area Location Map	Safety Concerns
		<input type="checkbox"/> Gas <input type="checkbox"/> Traffic <input type="checkbox"/> Access <input checked="" type="checkbox"/> Other crime
		Meter Location
		<input checked="" type="radio"/> U/S <input type="radio"/> D/S 2 ft
		Manhole Coordinates
		595,711.83 N 1,427,866.26 W

Area View Picture	Vicinity Map	Tellog Antenna Installation
		<input checked="" type="checkbox"/> Asphalt <input type="checkbox"/> Soil <input type="checkbox"/> Concrete <input type="checkbox"/> Traffic Signal Strength 100%
		Tellog Phone #
		(410) 952-3244
		System Characteristics
		<input checked="" type="checkbox"/> Residential <input checked="" type="checkbox"/> Commercial <input checked="" type="checkbox"/> Industrial

Hydraulic Assessment						
Surcharge (ft): overflow	<input checked="" type="checkbox"/> Straight	<input type="checkbox"/> Bend	<input type="checkbox"/> Drop Inlet	<input type="checkbox"/> Backwater	<input type="checkbox"/> Pump Sta.	<input type="checkbox"/> WWTP <input type="checkbox"/> Needs Cleaning
Flow Depth (in): 72.00	Instant Vel (fps): 1.67	Silt Level (in): 25.00	Signs of I/I: pipe			

HYDRAULIC RATING: <input checked="" type="radio"/> A (good) <input type="radio"/> B (questionable) <input type="radio"/> C (poor)	Recommended for Installation: <input checked="" type="radio"/> Yes <input type="radio"/> No
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Meter Type: ADS-FlowShark

Installation Plan Sketch	Installation Profile Sketch
	

Installation Information						Installation Photo
	Incoming				Outgoing	OF
Line #	1	2	3	4	1	1
Size (in)	m				99.00	
Material	e				RCP	
Debris (Y/N)	t				Y	
Shape	e				Cir.	
Flow Depth (in):	r				72.00	
Instant. Vel. (fps)					1.67	

Comments:	High crime, good hydraulics. Special install.
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		City of Baltimore - Bureau of Water and Wastewater				Site Name	
		Flow Monitoring Services for Sanitary Sewer System				OUT07	
Sewershed		Project No.		Inspection Date/Time		City MH I.D.	
Outfall		995S		1/18/06 - 10:45		S43E__037MH	
				Inspected By		Manhole	
				GW, MK		Pipe	
Site Address:		#1613 Fairmont Ave.		Depth (ft)	Width (ft)	Width (in)	Height (in)
				16.78	4'00"	24.00	
MH Type: <input type="checkbox"/> Brick <input checked="" type="checkbox"/> Precast		Pipe Type: <input type="checkbox"/> Brick <input type="checkbox"/> Concrete <input type="checkbox"/> Clay <input checked="" type="checkbox"/> Metal <input type="checkbox"/> Other				Pipe Shape: <input checked="" type="checkbox"/> Circular <input type="checkbox"/> Box <input type="checkbox"/> Odd	
Top View Picture 		Area Location Map 				Safety Concerns	
						<input type="checkbox"/> Gas <input type="checkbox"/> Traffic <input type="checkbox"/> Access <input type="checkbox"/> Other <input checked="" type="checkbox"/> None	
						Meter Location	
						<input checked="" type="checkbox"/> U/S <input type="checkbox"/> D/S	
						Manhole Coordinates	
						X 1426930.27 Y 592428.70	
Area View Picture 		Vicinity Map 				Telog Antenna Installation	
						<input checked="" type="checkbox"/> Asphalt <input type="checkbox"/> Soil <input type="checkbox"/> Concrete <input type="checkbox"/> Traffic <input type="checkbox"/> Other	
						System Characteristics	
						<input checked="" type="checkbox"/> Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Industrial	
Hydraulic Assessment							
Surcharge (ft): 7		<input type="checkbox"/> Straight <input checked="" type="checkbox"/> Bend		<input type="checkbox"/> Drop Inlet <input type="checkbox"/> Backwater		<input type="checkbox"/> Pump Sta. <input type="checkbox"/> WWTP <input checked="" type="checkbox"/> Needs Cleaning	
Flow Depth (in): 11.5		Instant. Vel (fps): 0.5		Silt Level (in): 3		Signs of I/I: Leaking Walls	
HYDRAULIC RATING: <input type="checkbox"/> A (good) <input checked="" type="checkbox"/> B (questionable) <input type="checkbox"/> C (poor)						Recommended for Installation <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
COMMENTS: 90 degree bend						Meter Type: Isco Ultra PV	
Installation Plan Sketch				Installation Profile Sketch			
Installation Information							Installation Photo
	Incoming				Outgoing	OF	
Line #	1	2	3	4	1	1	
Size (in)	24				24.8		
Material	DT				DI		
Debris (Y/N)	Y				Y		
Shape	Cir				Cir		
Flow Depth (in):	11.5				11.5		
Instant. Vel. (fps)	0.5				0.5		
Invert Elevation (ft)	16.79				16.83		
Comments:							

		City of Baltimore - Bureau of Water and Wastewater Flow Monitoring Services for Sanitary Sewer System				Site Name OUT08		
		Sewershed Outfall		Project No. 995S		Inspection Date/Time 1/18/06 - 10:00 Inspected By GW, MK		City MH I.D. S49CC_016MH
Site Address: Luzerne Ave. at E Madison St.				Depth (ft) 13.99	Width (ft) 4	Width (in) 24.00	Height (in)	
MH Type: <input checked="" type="checkbox"/> Brick <input type="checkbox"/> Precast		Pipe Type: <input type="checkbox"/> Brick <input type="checkbox"/> Concrete <input checked="" type="checkbox"/> Clay <input type="checkbox"/> Metal <input type="checkbox"/> Other				Pipe Shape: <input checked="" type="checkbox"/> Circular <input type="checkbox"/> Box <input type="checkbox"/> Odd		
Top View Picture 		Area Location Map 				Safety Concerns <input type="checkbox"/> Gas <input type="checkbox"/> Traffic <input type="checkbox"/> Access <input type="checkbox"/> Other <input checked="" type="checkbox"/> None		
Area View Picture 		Vicinity Map 				Meter Location <input checked="" type="checkbox"/> U/S <input type="checkbox"/> D/S		
Manhole Coordinates X 1430912.25 Y 595073.24		Telog Antenna Installation <input checked="" type="checkbox"/> Asphalt <input type="checkbox"/> Soil <input type="checkbox"/> Concrete <input type="checkbox"/> Traffic <input type="checkbox"/> Other						
System Characteristics <input checked="" type="checkbox"/> Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Industrial								
Hydraulic Assessment Surcharge (ft): 6 <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Bend <input type="checkbox"/> Drop Inlet <input type="checkbox"/> Backwater <input type="checkbox"/> Pump Sta. <input type="checkbox"/> WWTP <input type="checkbox"/> Needs Cleaning Flow Depth (in): 5 Instant. Vel (fps): 2.5 Silt Level (in): 0 Signs of I/I: Joint Leak in Upstream Line								
HYDRAULIC RATING: <input checked="" type="checkbox"/> A (good) <input type="checkbox"/> B (questionable) <input type="checkbox"/> C (poor)						Recommended for Installation <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
COMMENTS:						Meter Type: Isco Ultra PV		
Installation Plan Sketch 				Installation Profile Sketch 				
Installation Information							Installation Photo	
Line #	1	2	3	4	1	1		
Size (in)	24				24			
Material	VCP				VCP			
Debris (Y/N)	N				N			
Shape	Cir				Cir			
Flow Depth (in):	5				4.5			
Instant. Vel. (fps):	2.5				2.75			
Invert Elevation (ft)	13.88				14.03			
Comments:								

Sewershed OUTFALL	Project No. 995R	Inspection Date/Time 8/16/06 9:00am	City MH I.D. S43C_026MH	
		Inspected By SM / CB	Manhole Depth (ft) 9.80	Pipe Width (ft) 4.00
Site Address: 135 N. Bond St. and Fayette.			Width (in) 30.50	Height (in) 30.50

MH Type: ☐ Brick ☐ Pre-cast Pipe Type: ☐ Brick ☒ Concrete ☐ Clay ☐ Other Pipe Shape: ☒ Circular ☐ Box ☐ Odd

Top View Picture 	Area Location Map 	Safety Concerns <input checked="" type="checkbox"/> Gas <input type="checkbox"/> Traffic <input type="checkbox"/> Access <input checked="" type="checkbox"/> Other CO2, Crime
		Meter Location <input checked="" type="radio"/> U/S <input type="radio"/> D/S 2 ft
		Manhole Coordinates 592,662.91 N 1,426,729.56 W

Area View Picture 	Vicinity Map 	Telog Antenna Installation <input type="checkbox"/> Asphalt <input type="checkbox"/> Soil <input checked="" type="checkbox"/> Concrete <input type="checkbox"/> Traffic Signal Strength 75%
		Telog Phone # (410) 382-7604
		System Characteristics <input checked="" type="checkbox"/> Residential <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Industrial

Hydraulic Assessment

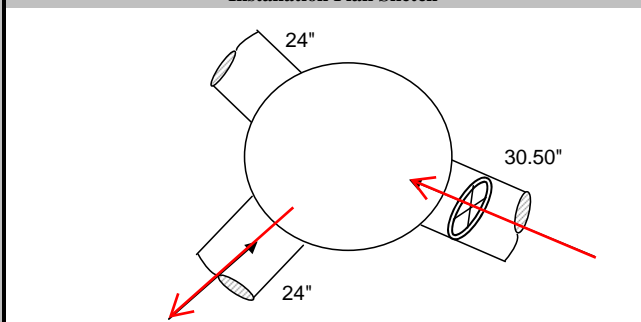
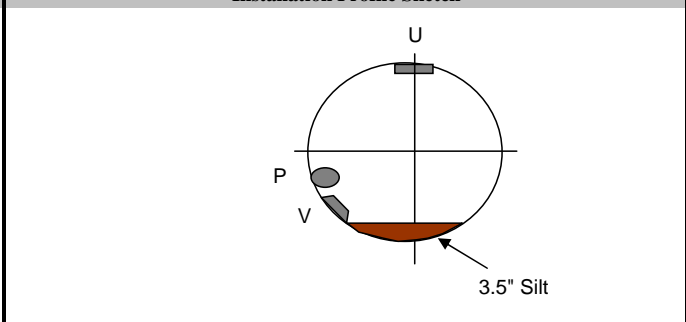
Surcharge (ft): **6.00** ☐ Straight ☒ Bend ☐ Drop Inlet ☐ Backwater ☒ Pump Sta. ☐ WWTP ☒ Needs Cleaning


Flow Depth (in): **5.50** Instant Vel (fps): **1.19** Silt Level (in): **3.50** Signs of I/I: **Yes**

HYDRAULIC RATING: ☐ A (good) ☒ B (questionable) ☐ C (poor)


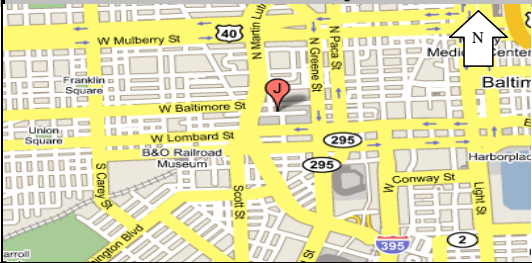


Recommended for Installation: ☒ Yes ☐ No

Meter Type: ADS-FlowShark

Installation Plan Sketch 	Installation Profile Sketch 
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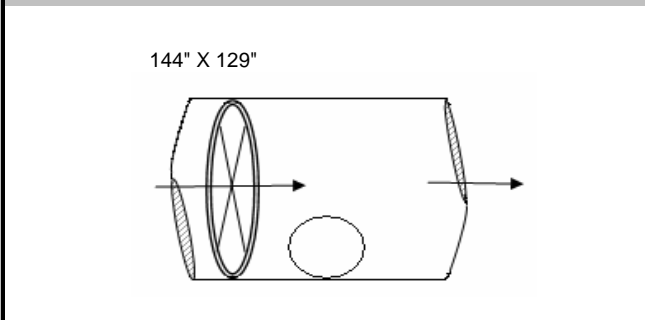
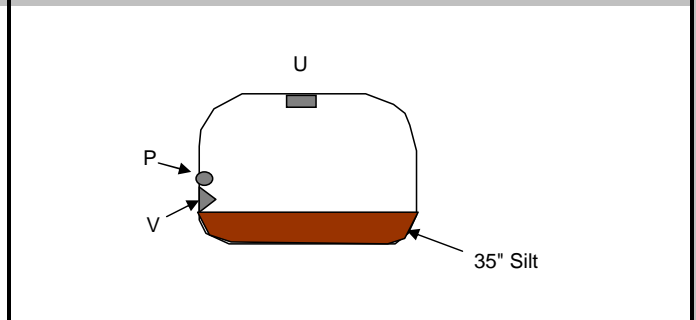
Installation Information						Installation Photo	
	Incoming				Outgoing	OF	
Line #	1	2	3	4	1	1	
Size (in)	<i>m</i>	24.00			24.00		
Material	<i>e</i>	CONC.			CONC.		
Debris (Y/N)	<i>t</i>	Y			Y		
Shape	<i>e</i>	CIRC.			CIRC.		
Flow Depth (in):	<i>r</i>						
Instant. Vel. (fps)							
Comments: Outgoing line is confirmed by field crew as 24.00"							


Sewershed HIGH LEVEL	Project No. 995R	Inspection Date/Time 1/5/06 13:00	City MH I.D. S45EE_005MH			
		Inspected By DJ / JM	Manhole		Pipe	
Site Address: 1100 Wolf		Depth (ft) 18.20	Width (ft) 4.00	Width (in) 144.00	Height (in) 129.00	
MH Type: <input checked="" type="radio"/> Brick <input type="radio"/> Pre-cast		Pipe Type: <input type="radio"/> Brick <input checked="" type="radio"/> Concrete <input type="radio"/> Clay <input type="radio"/> Other		Pipe Shape: <input type="radio"/> Circular <input type="radio"/> Box <input checked="" type="radio"/> Odd		

Top View Picture 	Area Location Map 	Safety Concerns <input type="checkbox"/> Gas <input checked="" type="checkbox"/> Traffic <input type="checkbox"/> Access <input checked="" type="checkbox"/> Other crime
Area View Picture 		Vicinity Map 
Meter Location <input checked="" type="radio"/> U/S <input type="radio"/> D/S 1 ft		Manhole Coordinates 596,326.08 N 1,428,007.83 W
Telog Antenna Installation <input checked="" type="checkbox"/> Asphalt <input type="checkbox"/> Soil <input type="checkbox"/> Concrete <input type="checkbox"/> Traffic Signal Strength 75%		Telog Phone # (410) 960-9556
System Characteristics <input checked="" type="checkbox"/> Residential <input checked="" type="checkbox"/> Commercial <input checked="" type="checkbox"/> Industrial		

Hydraulic Assessment			
Surcharge (ft): overflow	<input checked="" type="checkbox"/> Straight <input type="checkbox"/> Bend <input type="checkbox"/> Drop Inlet <input type="checkbox"/> Backwater <input type="checkbox"/> Pump Sta. <input type="checkbox"/> WWTP <input type="checkbox"/> Needs Cleaning		
Flow Depth (in): 85.00	Instant Vel (fps): 1.45	Silt Level (in): 35.00	Signs of I/I: NO
HYDRAULIC RATING:	<input checked="" type="radio"/> A (good) <input type="radio"/> B (questionable) <input type="radio"/> C (poor)	Recommended for Installation <input checked="" type="radio"/> Yes <input type="radio"/> No	


Meter Type: ADS-FlowShark

Installation Plan Sketch 	Installation Profile Sketch 
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Installation Information						Installation Photo	
	Incoming				Outgoing	OF	
Line #	1	2	3	4	1	1	
Size (in)	m				144 x 129		
Material	e				RCP		
Debris (Y/N)	t				Silt		
Shape	e				Cir.		
Flow Depth (in):	r				85.00		
Instant. Vel. (fps)					1.45		
Comments: High silt and flow, look to install during low flows.							

Sewershed OUTFALL	Project No. 995R	Inspection Date/Time 3/28/06 14:15	City MH I.D. S69A_001MH	
		Inspected By JK / SM	Manhole Depth (ft) 18.95	Pipe Width (ft) 4.00
Site Address: Kane on East Lombard			Width (in) 136.00	Height (in) 136.00

MH Type: ☒ Brick ☐ Pre-cast Pipe Type: ☐ Brick ☒ Concrete ☐ Clay ☐ Other Pipe Shape: ☐ Circular ☐ Box ☒ Odd

Top View Picture 	Area Location Map 	Safety Concerns <input type="checkbox"/> Gas <input checked="" type="checkbox"/> Traffic <input type="checkbox"/> Access <input type="checkbox"/> Other
		Meter Location <input checked="" type="radio"/> U/S <input type="radio"/> D/S 1.00 ft
		Manhole Coordinates 593,593.30 N 1,444,671.77 W

Area View Picture 	Vicinity Map 	Telog Antenna Installation <input checked="" type="checkbox"/> Asphalt <input type="checkbox"/> Soil <input type="checkbox"/> Concrete <input type="checkbox"/> Traffic Signal Strength 75%
		Telog Phone # (410) 207-4377
		System Characteristics <input checked="" type="checkbox"/> Residential <input checked="" type="checkbox"/> Commercial <input checked="" type="checkbox"/> Industrial

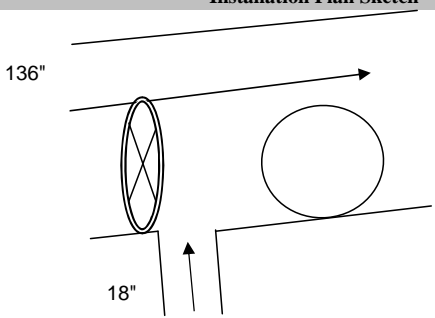
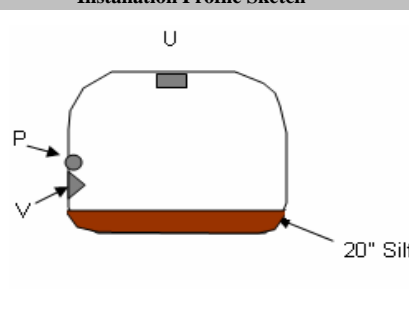
Hydraulic Assessment


Surcharge (ft): **10.00** ☒ Straight ☐ Bend ☐ Drop Inlet ☐ Backwater ☐ Pump Sta. ☐ WWTP ☐ Needs Cleaning

Flow Depth (in): **72.00** Instant Vel (fps): **3.20** Silt Level (in): **20.00** Signs of I/I:

HYDRAULIC RATING: ☒ A (good) ☐ B (questionable) ☐ C (poor) Recommended for Installation ☒ Yes ☐ No





Meter Type: **ADS-FlowShark**

Installation Plan Sketch 	Installation Profile Sketch 
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Installation Information						Installation Photo	
	Incoming				Outgoing	OF	
Line #	1	2	3	4	1	1	
Size (in)	18.00	m			136.00		
Material	Conc	e			RCP		
Debris (Y/N)	N	t			N		
Shape	Cir.	e			Cir.		
Flow Depth (in):	Full	r			72.00		
Instant. Vel. (fps)	3.00				3.00		
Comments:							

Sewershed OUTFALL	Project No. 995R	Inspection Date/Time 3/28/06 13:15	City MH I.D. S69A_003MH	
		Inspected By JM/VL	Manhole Depth (ft) 15.42	Pipe Width (ft) 4.00
Site Address: Kane on East Lombard			Width (in) 114.00	Height (in) 114.00

MH Type: ☒ Brick ☐ Pre-cast Pipe Type: ☐ Brick ☒ Concrete ☐ Clay ☐ Other Pipe Shape: ☒ Circular ☐ Box ☐ Odd

Top View Picture 	Area Location Map 	Safety Concerns <input type="checkbox"/> Gas <input checked="" type="checkbox"/> Traffic <input type="checkbox"/> Access <input type="checkbox"/> Other
Area View Picture 		Meter Location <input type="radio"/> U/S <input checked="" type="radio"/> D/S 2.00 ft
Vicinity Map 		Manhole Coordinates 593,609.78 N 1,444,549.99 W

Telog Antenna Installation <input checked="" type="checkbox"/> Asphalt <input type="checkbox"/> Soil <input type="checkbox"/> Concrete <input type="checkbox"/> Traffic Signal Strength 75%	
Telog Phone # (410) 207-3864	
System Characteristics <input checked="" type="checkbox"/> Residential <input checked="" type="checkbox"/> Commercial <input checked="" type="checkbox"/> Industrial	

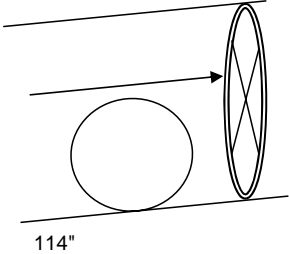
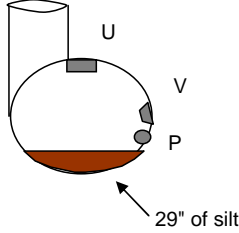
Hydraulic Assessment


Surcharge (ft): **0.00** ☒ Straight ☐ Bend ☐ Drop Inlet ☐ Backwater ☐ Pump Sta. ☐ WWTP ☐ Needs Cleaning

Flow Depth (in): **44.00** Instant Vel (fps): **2.11** Silt Level (in): **29.00** Signs of I/I: **NO**

HYDRAULIC RATING: ☐ A (good) ☒ B (questionable) ☐ C (poor) Recommended for Installation ☒ Yes ☐ No

Meter Type: **ADS-FlowShark**

Installation Plan Sketch 	Installation Profile Sketch 
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Installation Information						Installation Photo	
	Incoming				Outgoing	OF	
Line #	1	2	3	4	1		
Size (in)	114				m		
Material	RCP				e		
Debris (Y/N)	N				t		
Shape	Cir.				e		
Flow Depth (in):	44.00				r		
Instant. Vel. (fps)	2.00						
Comments:							

PART A - SITE INVESTIGATION

PART A - SITE INVESTIGATION

PART B - SITE INSTALLATION

PART B - SITE INSTALLATION

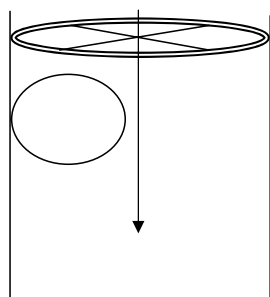
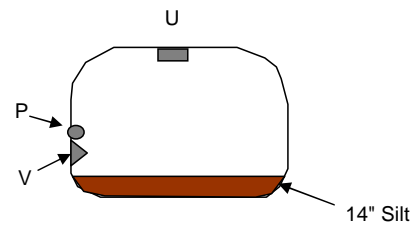
Sewershed OUTFALL	Project No. 995R	Inspection Date/Time 1/12/06 11:20	City MH I.D. S67A_002MH			
		Inspected By JM/VL	Manhole		Pipe	
			Depth (ft) 22.50	Width (ft) 4.00	Width (in) 147.00	Height (in) 132.00
Site Address:	Lombard at Kane St.					


MH Type: ☒ Brick ☐ Pre-cast Pipe Type: ☐ Brick ☒ Concrete ☐ Clay ☐ Other Pipe Shape: ☐ Circular ☐ Box ☒ Odd

Top View Picture 	Area Location Map 	Safety Concerns <input checked="" type="checkbox"/> Gas <input checked="" type="checkbox"/> Traffic <input type="checkbox"/> Access <input type="checkbox"/> Other
Area View Picture 		Vicinity Map 
Hydraulic Assessment Surcharge (ft): 10.00 <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Bend <input type="checkbox"/> Drop Inlet <input type="checkbox"/> Backwater <input type="checkbox"/> Pump Sta. <input type="checkbox"/> WWTP <input type="checkbox"/> Needs Cleaning Flow Depth (in): 86.00 Instant Vel (fps): 1.48 Silt Level (in): 14.00 Signs of I/I: wall		Meter Location <input checked="" type="radio"/> U/S <input type="radio"/> D/S 2 ft Manhole Coordinates 593,747.44 N 1,442,701.00 W Telog Antenna Installation <input checked="" type="checkbox"/> Asphalt <input type="checkbox"/> Soil <input type="checkbox"/> Concrete <input checked="" type="checkbox"/> Traffic Signal Strength 100% Telog Phone # (410) 404-3953 System Characteristics <input checked="" type="checkbox"/> Residential <input checked="" type="checkbox"/> Commercial <input checked="" type="checkbox"/> Industrial

HYDRAULIC RATING: ☒ A (good) ☐ B (questionable) ☐ C (poor) **Recommended for Installation** ☒ Yes ☐ No

Meter Type: ADS-FlowShark

Installation Plan Sketch 	Installation Profile Sketch 
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Installation Information						Installation Photo	
	Incoming				Outgoing	OF	
Line #	1	2	3	4	1	1	
Size (in)	m				147" X 132"		
Material	e				RCP		
Debris (Y/N)	t				Y		
Shape	e				Cir.		
Flow Depth (in):	r				86.00		
Instant. Vel. (fps)					1.50		
Comments: Install meter during low flows							